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27 February 2003

Ms. Kris Flint
U.S. Environmental Protection Agency
1200 Sixth Avenue (ECL-111)
Seattle, WA 98101

Subject: 2002 Annual Progress Report
K/J 006014.00 and 966124.34

Dear Ms. Flint:

Enclosed is the 2002 Annual Progress Report for the South Tacoma Field site. Please call us if you have questions regarding the information contained herein.

Very truly yours,

KENNEDY/JENKS CONSULTANTS

Nathan Graves

Nathan Graves
Vice President

NAG/cmb

Enclosure

cc: Ed Brosius, Amsted Industries
Bruce Sheppard, BNSF
Bill Joyce, Ogden Murphy Wallace
Pam Nehring, BNSF
Doug Rhine, R.W. Rhine

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Progress Report

SITE NAME: South Tacoma Field, Tacoma, Washington

PREPARED BY: Kennedy/Jenks Consultants

REPRESENTING: Amsted Industries and The Burlington Northern and Santa Fe Railway Company

DATE: Reporting Year 2002

REPORTING PERIOD:

a. Progress made this reporting period, including problems encountered and recommendations:

Completed one groundwater monitoring event in October 2002 for The Burlington Northern and Santa Fe Railway Company (BNSF) and Amsted Industries wells. Analytical results are summarized on Table 1, which is provided in Attachment A. There has been little change in groundwater quality for South Tacoma Field (STF) site-wide wells during the reporting period. BNSF well STM-1A was damaged, and a groundwater sample could not be collected for the October 2002 monitoring event. This well is being replaced.

Completed one groundwater monitoring event in October 2002 at Pioneer Builders Supply. Analytical results are summarized on Table 2, which is provided in Attachment A. There has been no significant change in groundwater quality for the Pioneer wells during the reporting period, although most analyte concentrations are slightly higher than the previous (October 2001) monitoring event although the results are within the range previously detected.

Completed two quarterly site inspections (July and December 2002) in accordance with Operations & Maintenance (O&M) Plan requirements. Inspection reports are provided in Attachment B.

b. Anticipated problem areas and recommended solutions, including technical and scheduling information:

None, except as noted on inspection reports. In summary, well security and fencing conditions will be monitored, and ponding in maintenance grids will be monitored to assess cap erosion.

c. **Problems resolved, including results obtained relating to previously identified problem areas.**

None.

d. **Deliverables submitted, including dates of completion, deliverable anticipated to be submitted with next report, and reasons due dates for any future deliverables may need to be revised. Delays should be fully explained:**

This reporting period:

January 2003 – Annual Progress Report for 2002.

Next reporting period:

January 2004 – Annual Progress Report for 2003.

e. **Upcoming event/activities planned, including field surveys, meetings, etc., and all major tasks to be performed within the next reporting period:**

Conduct inspections semi-annually in accordance with O&M Plan.

Perform groundwater monitoring once annually (October – this is the time contaminant concentrations have been most elevated) at BNSF, Amsted, and Pioneer Builders Supply.

Perform maintenance activities as needed, based on semi-annual inspections.

Replace and develop BNSF well STM-1A prior to the October 2003 sampling event.

f. **Key staffing changes, including consultant, contractor, or subcontractor personnel:**

None

g. **Reports, including identification of daily reports, inspection reports, laboratory/monitoring data, etc., that are available for review if requested by EPA:**

Groundwater Monitoring Summary Tables are provided in Attachment A. Original data reports available at Kennedy/Jenks Consultants office.

Quarterly inspection reports are provided in Attachment B.

Attachment A

Analytical Summary Tables
October 2002

TABLE 1

GROUNDWATER ANALYTICAL RESULTS
POST REMEDIATION SAMPLING EVENT – OCTOBER 2002
South Tacoma Field Site

Analyte	Amsted Wells			STF Wells			MCLs[b]
	MW-1A	CBS-4A	VMW-1	STM-1A	STM-3A	STM-4A/STM-100[a]	
Polynuclear Aromatic Hydrocarbons (µg/L)[c]	ND[d]	ND	ND	NA[e]	NA	NA	
Total lead (mg/L)[f]	**0.00124**	<0.00100[g]	<0.00100	NA	**0.00139**	**0.00995/0.00826**	0.015[h]
Total Petroleum Hydrocarbons as diesel (mg/L)[i]	<0.250	<0.250	<0.250	NA	NA	NA	–[j]
Total Petroleum Hydrocarbons as oil (mg/L)[i]	<0.500	<0.500	<0.500	NA	NA	NA	–[j]

Analyte	STF Wells					
	CBS-7A	CBS-10A	VMW-2	VMW-3	NMW-17A1	MCLs[b]
Polynuclear Aromatic Hydrocarbons (µg/L)[c]	NA	NA	NA	NA	NA	
Total lead (mg/L)[f]	**0.00117**	**0.00537**	**0.0182**	**0.00292**	<0.00100	0.015[h]
Total Petroleum Hydrocarbons as diesel (mg/L)[i]	NA	NA	NA	NA	NA	–
Total Petroleum Hydrocarbons as oil (mg/L)[i]	NA	NA	NA	NA	NA	–

Notes:

(a) Sample STM-100 is a duplicate sample collected from monitoring well STM-4A.
(b) Maximum contaminant levels (MCLs) are provided in the Drinking Water Regulations under the Safe Drinking Act, as amended.
(c) Samples were analyzed for polynuclear aromatic hydrocarbons (PAHs) using EPA Method 8270 with selected ion monitoring. No PAHs were detected above the detection limit of <0.10 µg/L.
(d) "ND" = Not detected.
(e) "NA" = Not analyzed.
(f) Groundwater samples were analyzed for total lead using EPA Method 7421.
(g) "<" denotes that the analyte was not detected at the indicated detection limit.
(h) No MCL is currently available; the value represents an action level.
(i) Groundwater samples were analyzed for total petroleum hydrocarbons as diesel (including oil) using NWTPH-D.
(j) "–" denotes that a MCL is not available.

Concentrations above the detection limits are shown in bold.

TABLE 2

GROUNDWATER ANALYTICAL RESULTS
QUARTERLY SAMPLING EVENT – OCTOBER 2002
Pioneer Builders Supply

Chemical	NMW-1A/ MW-100[a]	NMW-8A	NMW-9A	NMW-10A	NMW-11A	MCLs[b]	Cleanup Levels[c]
Volatile Organic Compounds (VOCs) (µg/L)[d]							
Acetone	<25.0/<25.0[e]	<25.0	<25.0	<25.0	<25.0	–[f]	800
2-Butanone	<10.0/<10.0	<10.0	<10.0	<10.0	<10.0	–	4,800
Benzene	**7.81/7.26**	<1.00	<1.00	<1.00	<1.00	5.0	5.0
Toluene	**38.3/24.5**	<1.00	<1.00	<1.00	<1.00	1,000	1,000
Ethylbenzene	**148/116**	<1.00	<1.00	<1.00	<1.00	700	700
Total Xylenes	**272.3/207.9**	<2.00	<2.00	<2.00	<2.00	10,000	10,000
n-Butylbenzene	**9.16/6.48**	<1.00	<1.00	<1.00	<1.00	–	–
sec-Butylbenzene	**7.53/6.69**	<1.00	<1.00	<1.00	<1.00	–	–
p-Isopropyltoluene	**24.8/18.0**	<1.00	<1.00	<1.00	<1.00	–	–
1,2-Dichlorobenzene	<1.00/<1.00	<1.00	<1.00	<1.00	<1.00	600	720
1,3-Dichlorobenzene	<1.00/**13.8**	<1.00	<1.00	<1.00	<1.00	–	–
1,4-Dichlorobenzene	**4.15/17.4**	<1.00	<1.00	<1.00	<1.00	75	1.82
1,3,5-Trimethylbenzene	**70.7/50.8**	<1.00	<1.00	<1.00	<1.00	–	–
1,2,4-Trimethylbenzene	**180/118**	<1.00	<1.00	<1.00	<1.00	–	–
Isopropylbenzene	**37.9/32.6**	<1.00	<1.00	<1.00	<1.00	–	–
n-Propylbenzene	**45.2/34.7**	<1.00	<1.00	<1.00	<1.00	–	–
1,2,4-Trichlorobenzene	<1.00/<1.00	<1.00	<1.00	<1.00	<1.00	70	80
Naphthalene	**88.3/66.6**	<1.00	<1.00	<1.00	<1.00	–	160
1,2,3-Trichlorobenzene	**3.14**/<1.00	<1.00	<1.00	<1.00	<1.00	–	–
Total Petroleum Hydrocarbons (mg/L)[g]							
Diesel range hydrocarbons	**0.859/0.910**	<0.250	**0.765**	**0.536**	<0.250	–	0.5
Gasoline range hydrocarbons	**5.660/5.180**	<0.050	<0.050	**0.984**	<0.050	–	0.8
Oil range hydrocarbons	<0.500/<0.500	<0.500	<0.500	<0.500	<0.500	–	0.5

TABLE 2

GROUNDWATER ANALYTICAL RESULTS
QUARTERLY SAMPLING EVENT – OCTOBER 2002
Pioneer Builders Supply

Notes:

(a) Sample MW-100 is a duplicate sample collected from well NMW-1A.
(b) Maximum contaminant levels (MCLs) provided in the Drinking Water Regulations under the Safe Drinking Act, as amended.
(c) Cleanup levels from Table 9-4 of the Record of Decision or the Model Toxics Control Act (MTCA) Method B groundwater cleanup levels based on MTCA Cleanup Levels and Risk Calculations (CLARC 3.1) updated November 2001.
(d) Groundwater samples were analyzed for VOCs by EPA Method 8260. Only the results of historically detected analytes are summarized in this table.
(e) "<" denotes analyte was not detected at the indicated detection limit.
(f) "--" denotes that a cleanup level has not been specified in the ROD, a MTCA Method B groundwater cleanup level is not available, or a MCL has not been established.
(g) Groundwater samples were analyzed for diesel (including oil) and gasoline range hydrocarbons using Washington Methods TPH-d and TPH-g, respectively.

Concentrations above the detection limit are shown in bold.

Attachment B

2002 Inspection Reports

OPERATION AND MAINTENANCE INSPECTION REPORT FORM
SOUTH TACOMA FIELD SITE

Inspection Date: *1 July 2002*

Personnel: *Dean Malte*

ITEM	ITEMS TO MEASURE OR NOTE	OBSERVED CONDITIONS/MEASUREMENT	MAINTENANCE OR CORRECTIVE ACTION REQUIRED
1. Amsted Property Cover System			
Dead/damaged vegetation	If present, where?	Surface intact, some plants growing through gravel surface, mainly on southern portion of the site.	No corrective action required at this time
Settlement/ponding	If present, where?	None noted during inspection	No corrective action required at this time
Side slopes sliding	If present, where?	None noted during inspection	No corrective action required at this time
Seismic activity damage	If present, where?	None noted during inspection	No corrective action required at this time
2. Amsted Property Drainage System			
Swales	Range of depth of sediment accumulation. Area and depth of high sediment build-up.	less than 1 - inch (sediment accumulation, at lowest elevations of swales)	No corrective action required at this time, Monitor.
3. Amsted Property Site Security			
Fences	Location of deterioration or vandalism	Fences intact with no evident damage	No corrective action required at this time
Gates	Are gates operable?	All gates operable and secure	No corrective action required at this time
Locks	Missing or not functioning?	All locks present and functioning (gate locks and monitoring well locks).	No corrective action required at this time
Signs	Signs destroyed or vandalized?	Signs are intact and in good condition.	No corrective actions required at this time.
4. BNR Dismantling Yard Cover System			
Settlement/ponding	If present, where?	No settlement or new rutting noted. No standing water noted, but weather conditions are dry.	No corrective action required at this time
Fissures	If present, where?	None noted during inspection	No corrective action required at this time
Side slopes sliding	If present, where?	None noted during inspection	No corrective action required at this time
Seismic activity damage	If present, where?	None noted during inspection	No corrective action required at this time

Note: Photographs of site conditions included? No ☑ Yes ☐

OPERATION AND MAINTENANCE INSPECTION REPORT FORM
SOUTH TACOMA FIELD SITE

Inspection Date: *1 July 2002*

Personnel: *Dean Malte*

ITEM	ITEMS TO MEASURE OR NOTE	OBSERVED CONDITIONS/MEASUREMENT	MAINTENANCE OR CORRECTIVE ACTION REQUIRED
5. BNR Dismantling Yard Drainage System			
Swales	Range of depth of sediment accumulation. Area and depth of high sediment buildup.	Less than 1-inch sediment accumulation, at lowest elevations of swales. No standing water is present, but weather condtions are dry. Vegetation is thick and up to 5 feet high.	No corrective action required at this time. Monitor; vegetation may need to be cut for monitoring well access.
6. BNR Dismantling Yard Security			
Fences, gates, locks, and signs.	Damaged, missing, inoperable?	Fences, gates, locks, and signs are intact.	No corrective action required at this time.
7. Other Cover Systems - BNSF Grids 452, 453, 460, 461, 493, 494, 500, 501, 520, 532, 533, 538, 550, 554, 586, 703, 767, 785, 791, 879, 1101, 1104, 1392			
Dead/damaged vegetation	If present, where?	No significant changes noted from previous inspection. Sparse vegetaion on grid 785, mostly on mounds between bare or very sparsely vegetated roads.	Monitor vegetative growth in all grids.
Settlement / Ponding	If present, where?	Tire ruts present on grids 703, 785, and 879, but do not appear new since last inspection. Ponding not observed, but weather conditions are dry.	Monitor ponding and settlement condtions.
Fissures	If present, where?	None noted during inspection	No corrective action required at this time
Side slopes sliding / Erosion	If present, where?	None noted during inspection	No corrective action required at this time
Seismic activity damage	If present, where?	None noted during inspection.	No corrective action required at this time
8. Other Areas Drainage System - Grids 899, 900, 907, 908, 909, 911			
Settlement / Ponding	If present, where?	No apparent degradation since previous inspection. Some tire rutting on grids 900 and 899, but consitent with previous inspections. Vegetation is low, but surfaces are mostly covered.	Monitor vegetative growth. Repair if cap erosion is apparent.
Drainage at the southern section of the BNR Railyard	Range of depth of sediment accumulation. Area and depth of high sediment buildup.	No significant sediment accumulation noted.	Monitor vegetative growth. Repair if cap erosion is apparent.
	Ponding, blocked drainage	None, some bare patches present on grids 899 and 900 and on the road on grids 907 and 908, otherwise vegetation is present.	No corrective action required at this time
9. Groundwater Monitoring Wells			
Damage/Vandalism	Which wells?	All wells intact, lids and locks intact. PBS wells ok.	No corrective action required at this time
10. Grid Markers			
Damage/Vandalism	Which markers?	All markers located except grid 586, likely covered by vegetation	No corrective action required at this time
11. Other			
Site access		Access points on Burlington, Madison, and Monroe secure. Gates and Ecology blocks intact and in place.	No corrective action required at this time

OPERATION AND MAINTENANCE INSPECTION REPORT FORM
SOUTH TACOMA FIELD SITE

Inspection Date: ***31 December 2002***

Personnel: ***Dean Malte***

ITEM	ITEMS TO MEASURE OR NOTE	OBSERVED CONDITIONS/MEASUREMENT	MAINTENANCE OR CORRECTIVE ACTION REQUIRED
1. Amsted Property Cover System			
Dead/damaged vegetation	If present, where?	Surface intact, some plants growing through gravel surface, mainly on southern portion of the site.	No corrective action required at this time
Settlement/ponding	If present, where?	None noted during inspection	No corrective action required at this time
Side slopes sliding	If present, where?	None noted during inspection	No corrective action required at this time
Seismic activity damage	If present, where?	None noted during inspection	No corrective action required at this time
2. Amsted Property Drainage System			
Swales	Range of depth of sediment accumulation. Area and depth of high sediment build-up.	less than 1 - inch (sediment accumulation, at lowest elevations of swales)	No corrective action required at this time, Monitor.
3. Amsted Property Site Security			
Fences	Location of deterioration or vandalism	Fences intact with no evident damage	No corrective action required at this time
Gates	Are gates operable?	All gates operable and secure. Access to well MW-1a is difficult because the site is being used for storage of telephone poles.	No corrective action required at this time.
Locks	Missing or not functioning?	All locks present and functioning (gate locks and monitoring well locks).	No corrective action required at this time
Signs	Signs destroyed or vandalized?	Signs are intact and in good condition.	No corrective actions required at this time.
4. BNR Dismantling Yard Cover System			
Settlement/ponding	If present, where?	No settlement or new rutting noted. Existing ruts are filled with water, and additional standing water is present on many grids because of recent significant rainfall.	No corrective action required at this time
Fissures	If present, where?	None noted during inspection	No corrective action required at this time
Side slopes sliding	If present, where?	None noted during inspection	No corrective action required at this time
Seismic activity damage	If present, where?	None noted during inspection	No corrective action required at this time

Note: Photographs of site conditions included? No ☑ Yes ☐

OPERATION AND MAINTENANCE INSPECTION REPORT FORM
SOUTH TACOMA FIELD SITE

Inspection Date: ***31 December 2002***

Personnel: ***Dean Malte***

ITEM	ITEMS TO MEASURE OR NOTE	OBSERVED CONDITIONS/MEASUREMENT	MAINTENANCE OR CORRECTIVE ACTION REQUIRED
5. BNR Dismantling Yard Drainage System			
Swales	Range of depth of sediment accumulation. Area and depth of high sediment buildup.	Less than 1-inch sediment accumulation, at lowest elevations of swales. Significant standing water is present, but signicant rainfall has occurred recently. Vegetation is thick.	No corrective action required at this time. Monitor.
6. BNR Dismantling Yard Security			
Fences, gates, locks, and signs.	Damaged, missing, inoperable?	Fences, gates, locks, and signs are intact.	No corrective action required at this time.
7. Other Cover Systems - BNSF Grids 452, 453, 460, 461, 493, 494, 500, 501, 520, 532, 533, 538, 550, 554, 586, 703, 767, 785, 791, 879, 1101, 1104, 1392			
Dead/damaged vegetation	If present, where?	No significant changes noted from previous inspection. Sparse vegetaion on grid 785, mostly on mounds between bare or very sparsely vegetated roads.	Monitor vegetative growth in all grids.
Settlement / Ponding	If present, where?	No new settlement or rutting noted. Existing ruts are filled with water, and standing water is present in lower portions of most grids because of recent significant rainfall.	Monitor ponding and settlement condtions.
Fissures	If present, where?	None noted during inspection	No corrective action required at this time
Side slopes sliding / Erosion	If present, where?	None noted during inspection	No corrective action required at this time
Seismic activity damage	If present, where?	None noted during inspection.	No corrective action required at this time
8. Other Areas Drainage System - Grids 899, 900, 907, 908, 909, 911			
Settlement / Ponding	If present, where?	New ruts and tire marks, mainly on grids 899 and 900 but also on 907 and 908. Piles of waste (clothing, pallets, wood, etc.) on grids 900 and 907. No settlement noted. Standing water present in ruts and low areas due to recent significant rainfall.	Monitor vegetative growth. Repair if cap erosion is apparent.
Drainage at the southern section of the BNR Railyard	Range of depth of sediment accumulation. Area and depth of high sediment buildup.	No significant sediment accumulation noted.	Monitor vegetative growth. Repair if cap erosion is apparent.
	Ponding, blocked drainage	No settlement noted. Standing water present in ruts and low areas due to recent significant rainfall.	No corrective action required at this time
9. Groundwater Monitoring Wells			
Damage/Vandalism	Which wells?	Well STM-1a damaged (sampling is not possible). Monument is tipped over, apparently due to vehicle damage. All other wells intact, lids and locks intact. PBS wells ok.	Replace well STM-1a. No other corrective action required at this time
10. Grid Markers			
Damage/Vandalism	Which markers?	All markers located except grid 586, likely covered by vegetation	If marker 586 not located in next inspection, use surveyors to locate. No other corrective action required at this time
11. Other			
Site access		Access points on Burlington, Madison, and Monroe secure. Gates and Ecology blocks intact and in place. The fence is cut next to the gate on Proctor Street (near well STM-4a) apparently by transients; however, this fence not part of containment system.	No additional corrective action required at this time